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ART 34 AMDT

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:-

1. An electronics-carrying module in a seismic data acquisition cable including:
 - 5 an electronics carrier having access means for providing an easy-to-reach access to a wrap-around circuitry fitted inside a curved space within said electronics carrier;
 - 10 a pair of rigid end-fittings spaced apart axially by said electronics carrier for connecting to a section of said seismic data acquisition cable; and
 - 15 an axial hole formed in said electronics carrier and said rigid end-fittings defining said curved space between said axial hole, said access means and said rigid end-fittings, said axial hole is formed for accommodating a cable with an uninterrupted strength member along said seismic data acquisition cable through said electronics-carrying module.
2. The electronics-carrying module in accordance with Claim 1, wherein said electronics carrier further comprises:
 - 20 an inner tube enclosing a major portion of said axial hole and having at least one opening thereon for connecting said wrap-around circuitry to said cable for both power and signal transmission.
3. The electronics-carrying module in accordance with Claim 2, wherein said access means comprises:
 - 25 a first fractional fluid-resistant tube fixed between said pair of rigid end-fittings; and
 - a second fractional fluid-resistant tube joined to said first

fractional fluid-resistant tube by sealing means so as to form said curved space between said inner tube and said access means, said second fractional fluid-resistant tube can be detached from said first fractional fluid-resistant tube by removing said sealing means.

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4. The electronics-carrying module in accordance with Claim 3, wherein said first fractional fluid-resistant tube is larger in volume than said second fractional fluid-resistant tube.

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5. The electronics-carrying module in accordance with Claim 3, wherein said first fractional fluid-resistant tube is smaller in volume than said second fractional fluid-resistant tube.

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6. The electronics-carrying module in accordance with Claim 3, wherein said first fractional fluid-resistant tube is equal in volume to said second fractional fluid-resistant tube.

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7. The electronics-carrying module in accordance with Claim 3, wherein said sealing means comprise an elastomer ring such as rubber ring.

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8. The electronics-carrying module in accordance with Claim 3, wherein said sealing means comprise a waterproof sealant.

9. The electronics-carrying module in accordance with Claim 7 or 8, wherein said sealing means further comprise a plurality of securing means selected from the group consisting of screw, clip, band, magnet, suction and adhesive material.

10. The electronics-carrying module in accordance with Claim 2, wherein said access means is a movable open-ended cylinder having a diameter slightly larger than said section of said seismic data acquisition
5 cable so that said movable open-ended cylinder can slide away from said inner tube to expose said wrap-around circuitry, said movable open-ended cylinder is attached to said pair of rigid end-fittings by means of sealing and can be detached by removing said means of sealing.

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11. The electronics-carrying module in accordance with Claim 10, wherein said sealing means comprise an elastomer ring such as rubber ring.

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12. The electronics-carrying module in accordance with Claim 10, wherein said sealing means comprise a waterproof sealant.

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13. The electronics-carrying module in accordance with Claim 11 or 12, wherein said sealing means further comprise a plurality of securing means selected from the group consisting of screw, clip, band, magnet, suction and adhesive material.

14. The electronics-carrying module in accordance with Claim 2, wherein said inner tube is a cylindrical tube.

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15. The electronics-carrying module in accordance with Claim 2, wherein said inner tube is a polygonal tube.

16. The electronics-carrying module in accordance with Claim 2, wherein said wrap-around circuitry comprises:

a first circuit board with a connection for connecting said wrap-around circuitry to said cable through said opening; and
5 means for securing said first circuit board to said inner tube.

17. The electronics-carrying module in accordance with Claim 16, wherein said wrap-around circuitry further comprises a second circuit board joined to said first circuit board by a connection means.

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18. The electronics-carrying module in accordance with Claim 17, wherein said wrap-around circuitry further comprises a plurality of other circuit boards joined one to another to said first circuit board by said connection means.

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19. The electronics-carrying module in accordance with Claim 18, wherein said connection means comprise a bendable conductor selected from the group consisting of a bunch of wires in a ribbon cable and a flexible printed circuit board.

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20. The electronics-carrying module in accordance with Claim 18, wherein said connection means comprise a fixed connector such as a pin-socket.

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21. The electronics-carrying module in accordance with Claim 16, wherein said first circuit board is a rigid circuit board.

22. The electronics-carrying module in accordance with Claim

16, wherein said first circuit board is a flexible circuit board.

23. The electronics-carrying module in accordance with Claim 17, wherein said second circuit board is a rigid circuit board.

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24. The electronics-carrying module in accordance with Claim 17, wherein said second circuit board is a flexible circuit board.

10 25. The electronics-carrying module in accordance with Claim 18, wherein said plurality of other circuit boards are rigid circuit boards.

18 26. The electronics-carrying module in accordance with Claim 18, wherein said plurality of other circuit boards are flexible circuit boards.

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27. The electronics-carrying module in accordance with Claim 1, wherein said wrap-around circuitry includes amplifying circuitry.

20 28. The electronics-carrying module in accordance with Claim 1, wherein said wrap-around circuitry includes a data acquisition unit.

29. The electronics-carrying module in accordance with Claim 1, wherein said wrap-around circuitry includes an analog-to-digital converter.

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30. The electronics-carrying module in accordance with Claim 1, wherein said wrap-around circuitry includes a multiplexing circuitry.

31. The electronics-carrying module in accordance with Claim 1, wherein said wrap-around circuitry includes a data transmission unit.

32. The electronics-carrying module in accordance with Claim 1,
5 wherein said wrap-around circuitry includes active control circuitry.

33. The electronics-carrying module in accordance with Claim 1, wherein said wrap-around circuitry includes power supply circuitry.

10 34. The electronics-carrying module in accordance with Claim 1, wherein said section of said seismic data acquisition cable comprises:
a portion of said cable; and
an outermost protective layer around said portion of said cable
for protecting said cable from the outside environment.

15 35. The electronics-carrying module in accordance with Claim 34, wherein said rigid end-fitting is connected to said section of said seismic data acquisition cable by clamping said outermost protective layer to said rigid end-fitting.

20 36. The electronics-carrying module in accordance with Claim 34, wherein said section of said seismic data acquisition cable further comprises a buoyant segment formed to fill the void underneath said outermost protective layer for providing a desired buoyancy level.

25 37. The electronics-carrying module in accordance with Claim 34; wherein said section of said seismic data acquisition cable further comprises a layer of strength reinforcing member above said outermost

protective layer, such as corrosion-resistant steel wire ropes.

38. The electronics-carrying module in accordance with Claim 36, wherein said buoyant segment includes a liquid material such as
5 hydrocarbon fluid.

39. The electronics-carrying module in accordance with Claim 36, wherein said buoyant segment includes a solid material such as polyurethane composite.

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40. The electronics-carrying module in accordance with Claim 36, wherein said buoyant segment includes a gel-type material.

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41. An electronics carrying module including:

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a carrier defining a space for housing of electronics;
selectively removable access means engagable with said carrier so as to provide access to said space;

a pair of end-fittings spaced apart axially by said carrier for connection of said module to a section of a cable;

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said cable having an axially extending strength member; and
a hole disposed along said module between said end-fittings, said hole being sized so as to accommodate threading of said cable through said module such that said strength member extends axially through said module;

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said access means being operable to provide access to said space without decoupling or removing the module from the cable.

42. An electronics carrying module according to claim 41

wherein said carrier has a substantially cylindrical outer shell.

43. An electronics carrying module according to claim 42 wherein said curved space is disposed intermediate said hole and said outer shell.

44. An electronics carrying module according to any one of claims 41 to 43 wherein said electronics is wrap-around circuitry.

10 45. An electronics carrying module according to any one of claims 41 to 44 wherein said access means is operable to provide access to said space without decoupling of the streamer at a termination point.

15 46. An electronics-carrying module substantially as herein described with reference to any one of the embodiments shown in the accompanying drawings.